

<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371</b>		ATTORNEY'S DOCKET NUMBER 421/96 PCT/US U.S. APPLICATION NO. (If known, see 37 CFR 1.5) <b>10/589222</b>
INTERNATIONAL APPLICATION NO. PCT/US2005/004421	INTERNATIONAL FILING DATE 02/14/2005	PRIORITY DATE CLAIMED 02/13/2004
TITLE OF INVENTION: FUNCTIONAL MATERIALS AND NOVEL METHODS FOR THE FABRICATION OF MICROFLUIDIC DEVICES		
APPLICANT(S) FOR DO/EO/US THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, North Carolina State University, Joseph M. DeSimone, Jason P. Rolland, Ginger Denison Rothrock		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a submission under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a submission under 35 U.S.C. 371. 3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371 (f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input checked="" type="checkbox"/> The US has been elected (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2)) a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> has been communicated by the International Bureau. c. <input checked="" type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)). a. <input type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input checked="" type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).		
<b>Items 11 to 20 below concern document(s) or information included:</b>		
11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 12. <input type="checkbox"/> An assignment document for recording. A separate 13. <input type="checkbox"/> A preliminary amendment. 14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A power of attorney and/or change of address letter 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 – 1.825. 18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).		

"Express Mail" mailing number **E07756 33867 US**  
 Date of Deposit **August 11, 2006**  
 I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail to Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.  
 Stacie H. Boswell **Stacie H. Boswell**

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>10/589222</b>	INTERNATIONAL APPLICATION NO. PCT/US2005/004421	ATTORNEY'S DOCKET NUMBER 421/96 PCT/US
20. Other items or information: <b>Copy of Amendment Pursuant to PCT Article 34 filed May 26, 2005 with Chapter II Demand</b>		
The following fees have been submitted		<b>CALCULATIONS</b> <b>PTO USE ONLY</b>
21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a)) ..... \$300		\$ 300
22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c)) If the written opinion of the ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of the PCT Article 33(1)-(4) . . . . \$0 All other situations ..... \$200		\$ 200
23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of the PCT Article 33(1)-(4). . . . . \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority ..... \$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB. . . . . \$400 All other situations ..... \$500		\$ 100
<b>TOTAL OF 21, 22 and 23 =</b>		<b>\$ 600</b>
<input checked="" type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing IN COMPLIANCE WITH 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.		
Total Sheets	Extra sheets	Number of each additional 50 or fraction thereof (round up to a whole number)
151	-100 = 51	/50 = 2
		x \$250
Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of the commencement of the national stage (37 CFR 1.492(h)).		\$ 0
CLAIMS	NUMBER FILED	NUMBER EXTRA
Total claims	238 - 20 =	218
Independent claims	12 - 3 =	9
MULTIPLE DEPENDENT CLAIM(S) (if applicable)		+
		\$360
<b>TOTAL OF ABOVE CALCULATIONS =</b>		<b>\$13,800</b>
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.		\$13,800
<b>SUBTOTAL =</b>		<b>\$13,800</b>
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).		\$ 0
<b>TOTAL NATIONAL FEE =</b>		<b>\$13,800</b>
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property		\$ 0
<b>TOTAL FEES ENCLOSED =</b>		<b>\$13,800</b>
		<b>Amount to be refunded:</b>
		<b>Amount to be charged:</b>

10/589222  
IAP11 Rec'd PCT/PTO 11 AUG 2006

PTO-1390 (Rev. 07-2005)

Approved for use through 3/31/2007. OMB 0651-0021

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

- a. ☒ A check in the amount of \$ 13,800.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit  
Account No. 50-0426. A duplicate copy of this sheet is enclosed.
- d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be  
included on this form.** Provide credit card information and authorization on PTO-2038.

**NOTE:** Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed  
and granted to restore the International Application to pending status.

SEND ALL CORRESPONDENCE TO:

Arles A. Taylor, Jr. 11-08-2006  
SIGNATURE:

Arles A. Taylor, Jr.  
NAME

39,395  
REGISTRATION NUMBER

Arles A. Taylor, Jr.  
Jenkins, Wilson, Taylor & Hunt, P.A.  
Suite 1200 University Tower  
3100 Tower Boulevard  
Durham, NC 27707  
UNITED STATES OF AMERICA